

PageNet recommends requiring carriers to serve at least 50% of the population in each region it proposes to serve.⁷

C. ALLOTMENT OF CHANNELS

PageNet believes that commercial and non-commercial operators should be eligible to apply for any PCP channel. PageNet concurs in the Commission's belief that opportunities for large regional and nationwide operators to expand will be balanced by the protection the rules will afford to smaller and local systems, and, thus, agrees that the two existing frequency pools can be eliminated without detriment. PageNet also supports the Commission's proposal to reserve 5 channels which will continue to operate under the current rules.

D. PREREQUISITES FOR CHANNEL EXCLUSIVITY

1. Construction Period

PageNet's recommendations concerning the Commission's construction requirements are set forth in Section II.A.2, supra.

2. Technical Standards

PageNet fully supports the Commission's proposal requiring that, in order to qualify for exclusivity, each transmitter be capable of 100 watts minimum output power as

⁷ In this regard, PageNet proposes that each PCP system transmitter be assumed to have a service area with a 20 mile radius.

well as simulcast capability.⁸ Further, PageNet concurs that these transmitters also be required to function together as part of a single operating system. PageNet believes that

do so. PageNet also supports the idea that applications to add transmitters to existing systems be treated the same as applications to establish new systems, but that where applications are mutually exclusive, a preference be granted in favor of the existing system.

F. FREQUENCY COORDINATION

The Commission proposes to continue to use coordination procedures, but to allow PCP applicants to use any of three frequency coordinators -- NABER, ITA, and APCO. PageNet submits, however, that, in this regard, the Commission is attempting to fix something that is not broken. Moreover, PageNet strongly believes that by allowing the use of multiple coordinators, the Commission is opening a Pandora's Box of problems. First, the use of multiple coordinators, instead of facilitating the type of cooperation that will maximize spectral efficiency, will create an overly adversarial relationship between applicants as they race to the Commission's door to stake out their frequencies. Moreover, the use of multiple coordinators will result in delays in the application process, and impose unnecessary burdens on the Commission's limited resources as it becomes forced to resolve coordinating conflicts. Conversely, NABER's coordination process has worked well and will continue to work well; exclusivity poses no variables which merit a change in the existing system. The existing process has resulted in efficiency, certainty and the prevention of

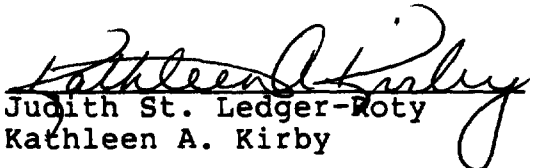
confusion. PageNet proposes, therefore, that NABER be used as the sole coordinator.

IV. CONCLUSION

PageNet commends the Commission for proposing substantive measures which will prevent the significant problems associated with frequency sharing on the lower PCP bands and which will ensure the growth and development of 900 MHz PCP systems. The Commission's proposal will facilitate the development of spectrally efficient technologies, spur PCP growth, and set up a regulatory framework capable of taking PCP into the future. PageNet believes that the Commission's proposal, with minor adjustments, will benefit the paging industry as a whole while maximizing spectral, technical, and operational efficiencies. Moreover, the efficiencies resulting from this new regulatory framework will serve the public interest by providing consumers with higher quality, diverse communications services at a lower

price. Therefore, PageNet urges the expeditious adoption of rules which provide for channel exclusivity at 929 MHz.

Respectfully submitted,
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Dated: May 6, 1993

Exhibit 1

900 MHz Service Contour as a Function of Height & Power

Formula:

$$d(\text{km}) = 1.36 \times (\text{height-meters})^{0.335} \times (\text{power-Watts})^{0.175}$$

Table:

Height (m)	Height (ft)	Power (W-erp)	Contour (km)	Contour (mi)
177.08	581	3500	32.13	19.96
182.87	600	3300	32.14	19.97
213.35	700	2400	32.01	19.89
243.83	800	1900	32.14	19.97
274.31	900	1500	32.07	19.93
304.79	1000	1000	30.95	19.23
335.26	1100	920	31.49	19.57
365.74	1200	840	31.91	19.83
396.22	1300	760	32.21	20.02
426.70	1400	680	32.38	20.12
457.18	1500	600	32.42	20.15
487.66	1600	550	32.63	20.28
518.13	1700	500	32.75	20.35
548.61	1800	450	32.77	20.36
579.09	1900	400	32.69	20.31
609.57	2000	350	32.49	20.19
640.05	2100	320	32.51	20.20
670.53	2200	290	32.46	20.17
701.01	2300	260	32.32	20.08
731.48	2400	230	32.09	19.94
761.96	2500	200	31.74	19.73
792.44	2600	188	31.82	19.77
822.92	2700	176	31.85	19.79
853.40	2800	164	31.85	19.79
883.88	2900	152	31.80	19.76
914.36	3000	140	31.70	19.70
944.83	3100	132	31.72	19.71
975.31	3200	124	31.71	19.71
1005.79	3300	116	31.67	19.68
1036.27	3400	108	31.59	19.63
1066.75	3500	100	31.47	19.56
1097.23	3600	95	31.49	19.57
1127.70	3700	90	31.48	19.56
1158.18	3800	85	31.45	19.54
1188.66	3900	80	31.39	19.50
1219.14	4000	75	31.30	19.45
1249.62	4100	74	31.48	19.56
1280.10	4200	73	31.66	19.68
1310.58	4300	72	31.84	19.78
1341.05	4400	71	32.00	19.89
1371.53	4500	70	32.17	19.99
1402.01	4600	69	32.32	20.08
1432.49	4700	68	32.47	20.18
1462.97	4800	67	32.62	20.27
1493.45	4900	66	32.76	20.36
1523.93	5000	65	32.89	20.44

Exhibit 2

RAYMOND C. TROTT

CONSULTING ENGINEER, INC.

ENGINEERING STATEMENT OF RAYMOND C. TROTT, P.E.

The following is an interference analysis conducted between two co-channel paging stations in the 929 MHz frequency band. The study considers two co-channel separation distances: 75 miles, the distance that NABER utilizes for coordination purposes; and 70 miles, the distance the Commission proposes in the NPRM in PR Docket No.93-35, released March 31, 1993.

The analysis compares various height-power values of one station with respect to an interference contour and its effect on a service contour of the co-channel station.

The reliable service contour of the protected station is based on a 5 μ volt signal (41.4 dBu), a typical industry pager sensitivity, at 3 feet above ground (belt level).

The analysis was conducted utilizing the field strength charts of FCC Report R-6602. The predicted interference contours of the PageNet station were derived from the F(50,10) curves (Figure 30) and were set at 31.4 dBu field strength. The predicted service contour of the protected station was derived from the F(50,50) curves (Figure 29) and was set at 41.4 dBu field strength. Calculations were performed for various height-power values: 1000'/1000W, 1172'/860W & 580'/3500W.

Correction Factors

For the contour calculations, a 3' antenna correction factor of -11 dB was used. No other correction factors were utilized.


RAYMOND C. TROTT
CONSULTING ENGINEERS, INC.

Predicted Contours

The results of the calculations show that the predicted interference contours of each of the height-power values do not overlap the calculated service contour of the protected co-channel station.

List of Engineering Exhibits

- | | |
|----------------|--|
| Exhibit RCT-1: | Table showing results of interference analysis |
| Exhibit RCT-2: | Diagram showing service and interference contours with a 75 mile co-channel separation |
| Exhibit RCT-3: | Diagram showing service and interference contours with a 70 mile co-channel separation |


Raymond C. Trott, P.E.
April 14, 1993

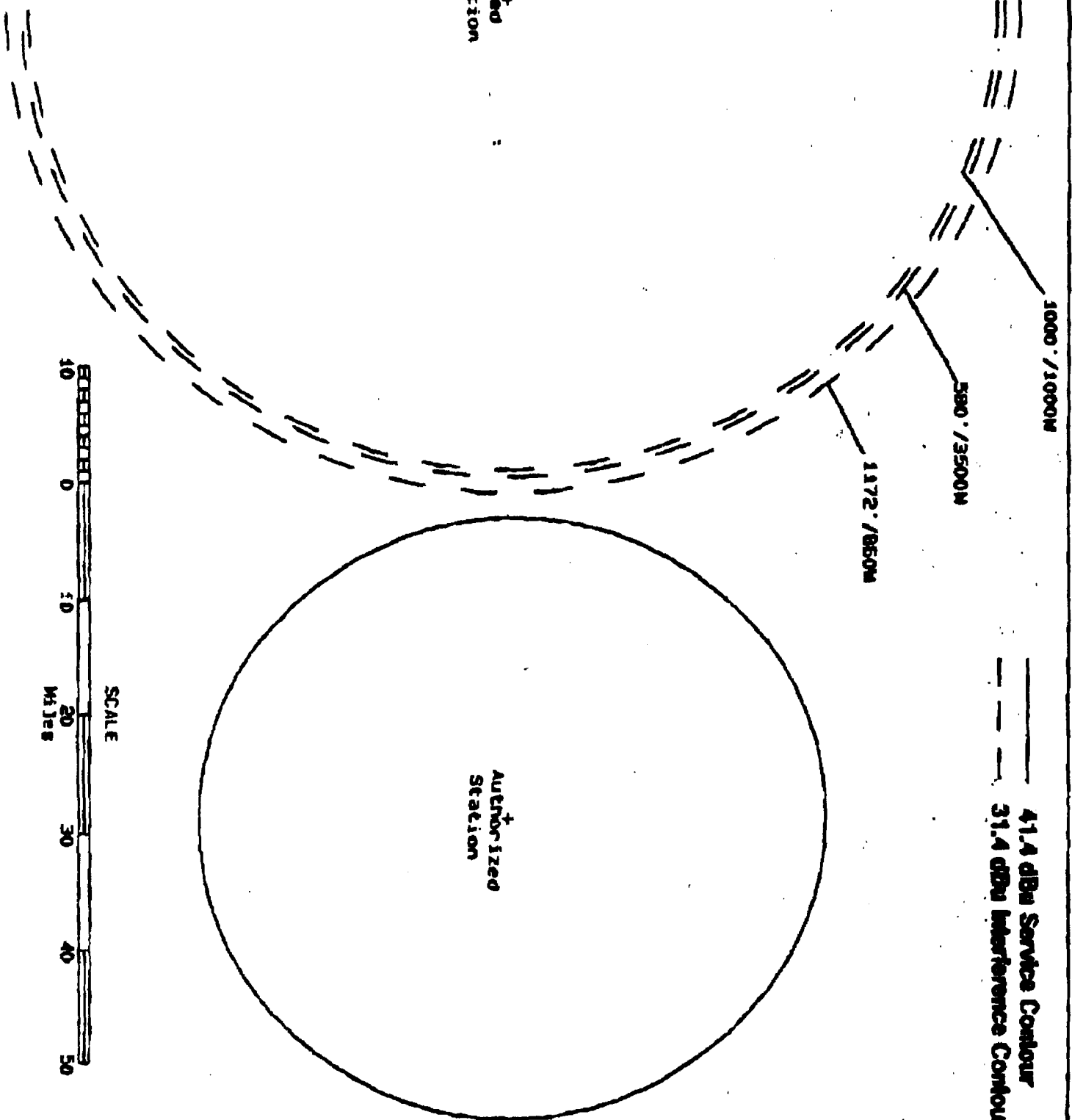
929 MHz CO-CHANNEL STATION INTERFERENCE ANALYSIS										
AUTHORIZED STATION					PROPOSED STATION					
41.4 dBu F(50,50)					31.4 dBu F(50,10)					
Dist (mi)	HAAT (feet)	ERP (Watts)	Contour (miles)		HAAT (feet)	ERP (Watts)	Contour (miles)		Clearance (miles)	
75	1000	1000	26.0		1000	1000	40.0		9.0	
75	1000	1000	26.0		1172	860	41.9		8.4	
75	1000	1000	26.0		580	3500	40.6		7.1	
70	1000	1000	26.0		1000	1000	40.0		4.0	
70	1000	1000	26.0		1172	860	41.9		3.4	
70	1000	1000	26.0		580	3500	40.6		2.1	
85	1000	3500	31.0		1000	3500	49.5		4.5	
NOTES: Contour Values derived from FCC Report No. R-6602										
Service Contour based on 5µvolt signal (41.4 dBu)										
3' antenna correction of -11 dB was used										

70 MI SEPARATION

41.4 dBu Service Contour
31.4 dBu Interference Contours

Proposed
Station

Authorized
Station

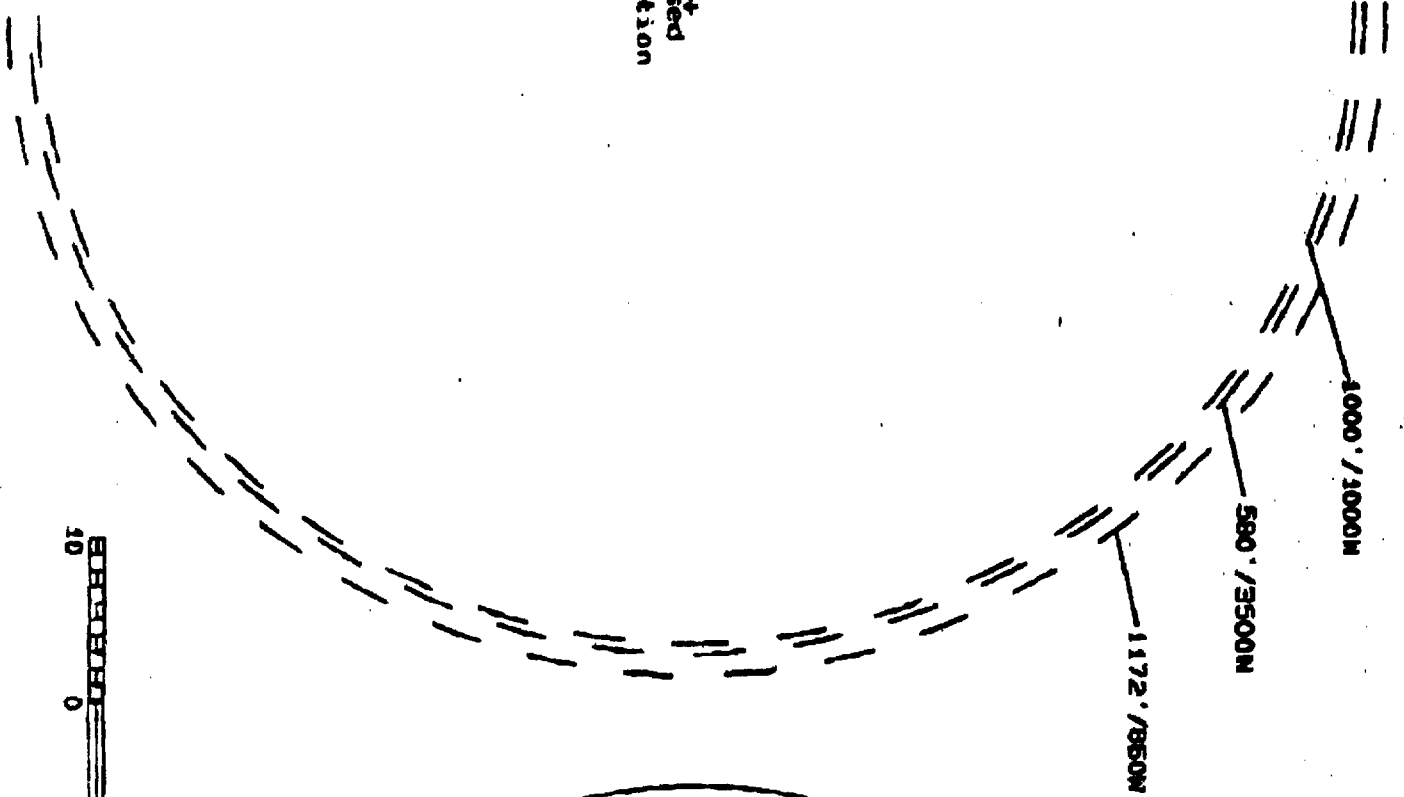
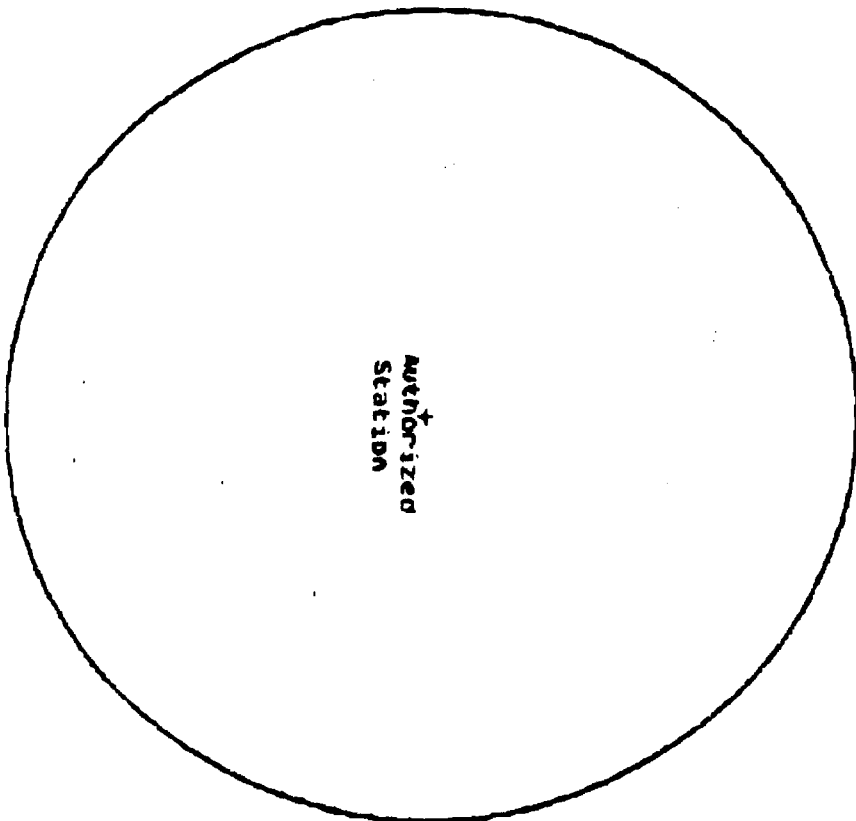


75 MI SEPARATION

41.4 dBu Service Contour
 31.4 dBu Interference Contours

Proposed
 Station

Authorized
 Station



85 MT SEPARATION

—— 41.4 dBu Service Contour
- - - 31.4 dBu Interference Contour

1000' / 3500M

Proposed
StationAuthorized
Station

Comparison of Available Power Limits 931, 929 MHz. Paging Frequencies

▨ RCC Power Limit ■ PCP Power Limit ▤ RCC Power (>L)

(dBKW)
+6
+3
0
-3

